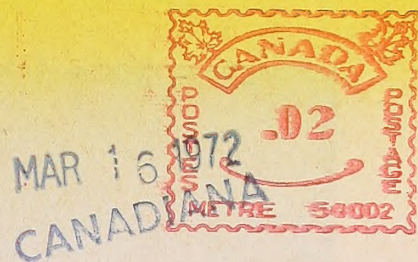


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Alberta NEWSLETTER



INDUSTRIAL DEVELOPMENT BOARD OF THE PROVINCE OF ALBERTA

Department of Economic Affairs

HON. A. R. PATRICK, Minister

EDMONTON, ALBERTA, CANADA

RALPH R. MOORE, Deputy Minister

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RICHARD MARTLAND, Director

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Demand for Electrical Energy Still Increasing

Alberta's industrial growth has brought about a tremendous increase in the demand for electrical energy. To keep pace with these demands, at least three new power plants are being constructed, and others planned in Alberta. The production of power in Alberta has increased 200 percent during the past ten years and is expected to maintain a high rate of increase for at least the next decade. In 1955, the generating capacity of all plants was approximately 463,000 kilowatts: 740,000 kw is forecast by 1959. 1956's jump is to 561,000 kw.

Last year, Alberta's consumption was over 1,728,000,000 kilowatt hours, generated by power plants having a total capacity of 462,500 kilowatts, an increase in output of 15 percent over 1954.

In 1955, hydro-powered generators turned out 54% of the total power generated in the province. Steam plants accounted for 44%. Internal combustion plants accounted for the balance.

This year will see the completion of the first units in two new steam plants in Alberta. The Wabamun plant of Calgary Power Ltd. will introduce a 66,000 kw gas-fired steam unit, while Canadian Utilities Ltd. Battle River Project will bring into service its first 32,000 kw coal-fired unit. Next year work will be started on the City of Edmonton's steam plant in preparation for the installation of two 30,000 kw gas turbines. These, when installed in 1958, will be the largest in North America.

Transmission systems are also expanding rapidly. Last year there were 8,968 miles of primary transmission line, not including some 27,000 miles of farm electrification services. With the increase in the number of oil fields, many heavy transmission lines have been extended to a number of new areas so that now large blocks of power are available to almost all settled areas of Alberta.

The rapid expansion in the generation and transmission of power in the province is due largely to the expanding oil, gas and allied industries. Industries associated with petroleum products and by-products are increasing and expanding.

Alberta has more than a million horsepower of water power, more than 11 trillion cubic feet of natural gas, and 17 billion tons of mineable coal as power sources. Much of the latter can be strip-mined, helping to produce power as cheaply as hydro.

New projects now under way or completed include the Calgary Power steam plant under construction at Lake Wabamun. Costing over \$8,000,000, the plant will have a capacity of 66,000 kw when its first unit comes into operation this fall. A second 66,000 kw unit is expected to be in operation next year. Ultimately, the plant will be composed of four units—two 66,000 kilowatt and two 100,000 kilowatt.

The Pocaterra Development of 18,500 horsepower on Lower Kananskis Lake went into operation last fall.

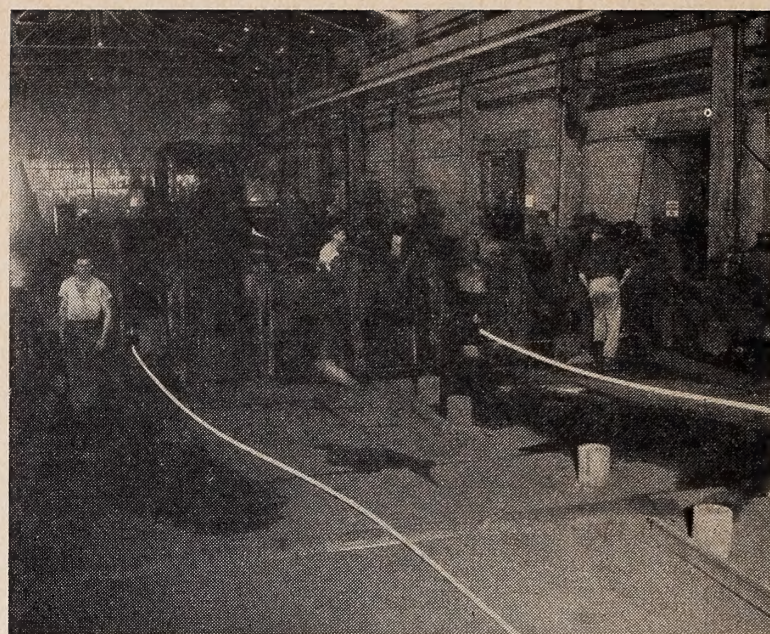
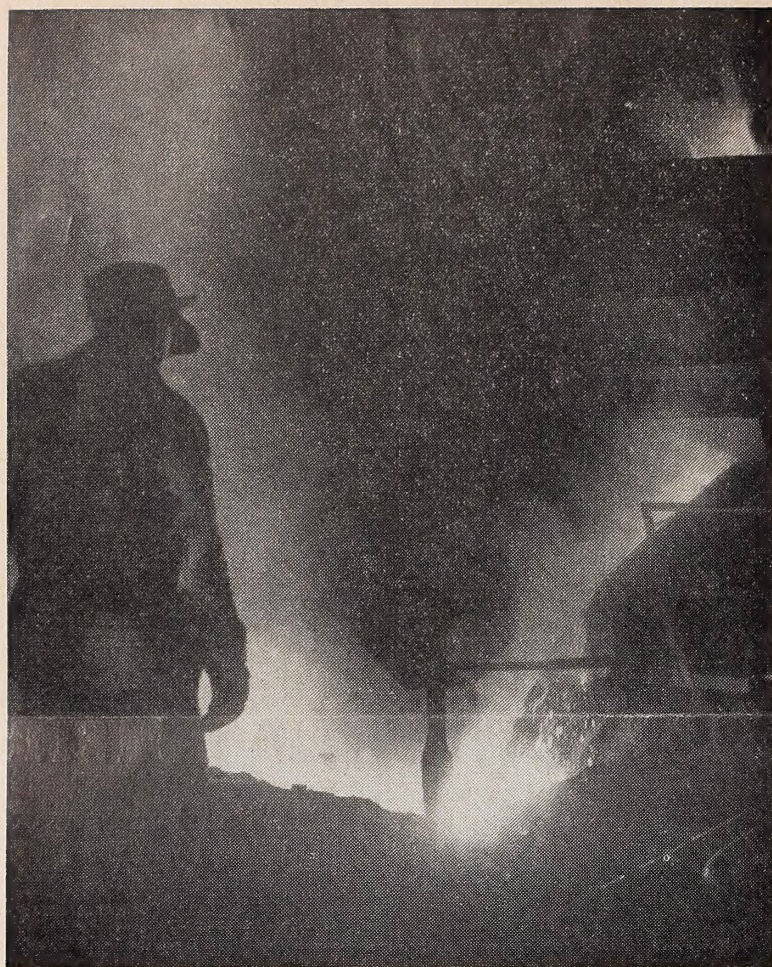
A steam plant constructed on the Battle River near Forestburg by Canadian Utilities will be in operation this year. The capacity of the first unit will be 32,000 kilowatts with provision made for additional units. The damming of the Battle River ensures a plentiful water supply, while coal from nearby fields will provide the necessary fuel.

The Bearspaw dam and Power development near Calgary began operating last year, adding 22,000 horsepower to the system. In the Peace River area, Canadian Utilities and Northland Utilities have completed a joint plant at Fairview, containing two 1,250 kilowatt internal combustion type units. Using natural gas as a fuel, these units went into operation in the fall of 1954. A 5,000 kw gas turbine is planned for Valleyview in 1957.

At Lethbridge, the city plans to install an 8,000 kilowatt gas turbine next year.

Calgary Power Co. Ltd. will add to its capacity by installing another 18,000 kw hydro unit at the Cascade project. A 23,000 kw hydro plant was installed at the Ghost River plant in 1954.

Also in 1954, the first gas turbine to be installed in Canada was opened at Vermilion by Canadian Utilities. Since that time another eleven have been ordered in the western provinces.



A pouring from the ladle of the electric arc furnace at the Premier Steel Mills is shown at left. Above, we see a strip of the white hot steel being ejected from the finish side of the rolling machine. The bar will be cut to suitable lengths, according to order and shipping requirements.

First Steel Mill Locates in Mid-Western Area

Since it started operation in September, 1955, Premier Steel Mills Limited, on the outskirts of Edmonton, has shipped more than 15,000 tons of merchant bar steel to markets in Alberta, Saskatchewan and the British Columbia interior. These markets were previously served by mills at Winnipeg and the West Coast, and represent largely new markets that have opened up as the result of increased industrialization of the West and Alberta, and as a consequence of savings in shipping costs.

Peak annual capacity for the 660 foot long, 72,000 square foot mill is presently 35,000 tons but plans are being made to double the capacity with the addition of a second melting furnace in 1957. An additional 100 persons will be employed to bring the labor force up to 350.

The mill, only one between Winnipeg and the West Coast, operates on the "flow-line" plan, and uses scrap steel stripped of zinc, brass, lead and

copper. Shipped to the plant from all over the province, the scrap is cut into required lengths and fed into an arc furnace, designed in Italy and built in England.

Three or four scrap recharges are required to produce a 15 ton "heat" in the arc furnace. Three graphite electrodes transmit the arc into the metal to generate sufficient heat for melting. A number of tests are taken during the melting process to assure the steel is of the required specifications. Alloying ingredients are added during melting and pouring to bring the steel to meet its desired quality. About three hours are required to melt and pour one "heat".

The white-hot steel when at 3,000°F is poured into ingot molds. Removed after a cooling period, they are fed into a pusher-type reheat furnace, the only one in Canada fired by natural gas.

The ingot is manipulated by conveyors and tongs through openings in various sets of rolls and gradually is transformed into a stipulated bar size.

The faces of the rolls are cut and scored to produce corrugated, flat or channelled and angular shapes, whichever may be required.

The bars, still red hot, are delivered from the rolling mills by conveyors to a wide platform known as the "hot-bed" where they are straightened, cooled, cut by shearing machines, and bundled, ready for shipment.

The purpose of the ALBERTA NEWS-LETTER is to provide up-to-date information about the development and opportunities in Alberta.

In this issue—

- Electrical Energy Demand.
- First Steel Mill in Mid-West.
- Survey of Vermilion.

TOWN OF VERMILION

Location: Southwest quarter of 32-50-6-W4 in Census Division No. 10; located 120 miles east of Edmonton on Highway No. 16 and the Edmonton-Saskatoon line of the Canadian National Railways.

Altitude: 2,032 feet.

Temperature: Average summer, 55.4 degrees; average winter, 17.3 degrees; average yearly 32.2 degrees.

Rainfall: Average annual rainfall, 11.57 inches; average yearly snowfall, 40.9 inches; average yearly total precipitation, 15.66 inches.

Geology: The bedrock of this area underlying the glacial deposits is the Belly River formation of the upper Cretaceous period. This formation is a series of light colored sandstone and shales. This horizon, in other parts of the province, includes dinosaur beds and coal seams.

Soil: Vermilion lies in the shallow black soil zone. The upper three to six inches are black soil, with dark brown underneath and the lime horizon at depths of 24 to 30 inches.

The soil is fairly well supplied with nitrogen and organic matter. Wheat is the principal crop grown, but considerably more diversification is possible. The non-arable land is generally very good pasture and this area is one of the leading mixed farming districts in the province.

There is considerable tree growth and grassland.

History: The town of Vermilion derives its name from the Vermilion River. The majority of early settlers were from eastern Canada, Great Britain and the United States. Many of the latter drove their own herds of cattle across the border. Early transportation was by river boat and ox-cart.

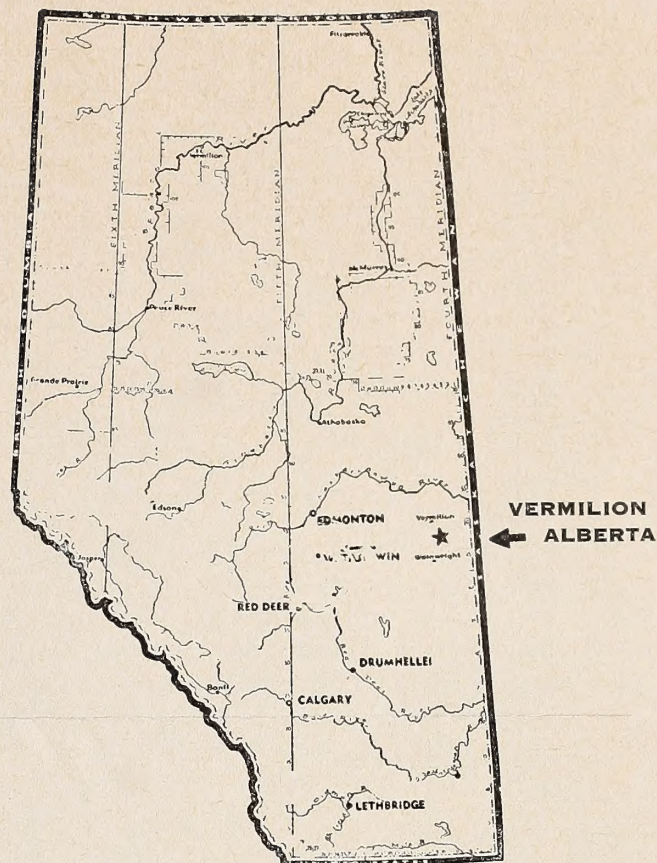
Vermilion was incorporated as a village in the spring of 1906 and as a town in the fall of the same year. The first post-office was established a few miles east of the present townsite and called Breage. In 1905, with the coming of the railway, it was moved to the town proper.

First religious services were held by traveling preachers. An Anglican church built in 1905 was the first in the community. "The Vermilion Signal" was published in 1906 by W. B. Cameron, sole male survivor of the Frog Lake Massacre. In 1909 the paper was purchased by S.R. P. Cooper and re-named "The Vermilion Standard". This business is still carried on by the Cooper family.

A disastrous fire wiped out much of the business section in 1918. Fireproof brick buildings now predominate in the downtown area.

First industries included a flour mill which manufactured "Marquis" brand flour, and two brick plants.

Living Conditions: Vermilion is a prosperous looking town with an extensive building program in progress. There are many fireproof business structures and a variety of modern stores. Streets



are wide and paved throughout the business section. A movie theatre supplies ideal entertainment. Enclosed curling rinks and hockey rinks offer facilities for winter sports. The golf course is good and there is a 14-acre athletic park.

Located northwest of Vermilion is Vermilion River Provincial Park, nestled in the scenic river valley along the shores of a 4½-mile long artificial lake formed by damming the river. There are excellent bathing beaches at the park, and ample camping space. Camp area is served with electricity and the park offers fishing, scenic drives, picnic shelters, cold spring drinking water, boating, swimming and water skiing.

The park was built with the co-operation of the town of Vermilion, Provincial Government, Ducks Unlimited and Canadian Utilities Ltd.

Population: 2,408.

Administration: The town is governed by a mayor elected for a two-year term, and six councillors, two elected each year for a three year term. The secretary-treasurer carries out the policy set down by the town council. There is a superintendent of Public Works and Water Works who supervises construction and maintenance of utilities and public works.

Laws and Regulations: The town is policed by three members of the Royal Canadian Mounted Police. Permits for installation of gas and electrical work must be secured from the secretary-treasurer.

Fire Protection: A volunteer fire brigade of a chief and 21 firemen are on 24-hour call. The town owns three modern fire-fighting units.

Tax Structure: Land and improvements assessment based on 100% fair value is \$2,458,310. The tax rate is 47 mills, made up of 6.5 hospital, 24 school and 16.5 municipal. There is a 30 mill business tax.

Power: Canadian Utilities Ltd., has supplied power to Vermilion since 1947. This firm installed the first gas turbine generating plant in Canada at Vermilion in 1954. A 22,000 horsepower generating plant is located in the town and construction of another 40,000 horsepower plant is underway near Forestburg on the Battle River. The minimum domestic charge is \$1.25. Domestic rates are: first 25 kw at seven cents per kw, and 2½ cents per kw over 25. There is a 50 cent service charge. Power rates are: 25 kw per h.p. at seven cents, 50 kw per h.p. at four cents, and excess at two cents. Special electric rates are available to industry using a large amount of power.

Water: Water is obtained from two bored wells 73 feet deep, located in the Vermilion River valley, just north of the town and beside the dam-created lake. Capacity of these wells has been tested at 350,000 gallons in 24 hours. Minimum charge is \$2.75 for the first 3,000 gallons; 80 cents per thousand gallons for the next 3,000 gallons; and 65 cents per thousand gallons over that mark.

There is a \$1.50 sewer charge for residences and large buildings are assessed according to the sanitary service.

Fuel: Natural gas is supplied to the town by Northwestern Utilities Ltd., from the Wildmere Field, southeast of Vermilion. The town is also connected by pipeline to Northwestern's Viking-Kinsella Field. Diesel fuel is available in unlimited supply.

Local Resources: Cereal, dairy products, horses, cattle, sheep and hogs; oil, gas, salt, asphalt, straw, poultry, eggs, honey, sand and gravel.

Government Offices and Services: Federal: post office, district office of Department of Veterans' Affairs, RCMP, Department of Transport radio range control and weather station, Loyal Edmonton Regiment armouries, and veterinary officer. Provincial: Alberta Government Telephones, Provincial Liquor Store, Provincial Treasury Branch, police magistrate, School of Agriculture and Home Economics, district agriculturist, game warden, Department of Public Health offices, public works maintenance control, electric and boiler inspector. Municipal: School Division, Town Hall housing committee rooms and secretary-treasurer, fire hall, RCMP office, superintendent of water works and public works, public library.

Health Services: Vermilion boasts one of the first Municipal Hospitals in the province. In 1955 a new wing was added increasing the bed capacity to 54 and had the effect of changing the hospital rating from Class D to Class C. Equipment is very modern. Rates: ratepayers, \$1.50 per day; non resident, \$10.50 per day; contract holders \$10.00 per year plus ratepayer rates.

There are three doctors, three dentists, two drug stores, 1 chiropractor and one optometrist.

Professional and Skilled Services (not including health): Chartered and public accountants, barristers and solicitors, beauty parlors, barber shops, watch repairs, photograph studio.

Transportation: Vermilion is served by Canadian National Railway's Edmonton-Saskatoon line, and the Greyhound Bus Line with Edmonton-Saskatoon runs. There is one taxi stand with two cabs.

Communications: Canadian National Telegraphs, Alberta Government Telephones, post office, nearest radio stations 120 miles west at Edmonton, CJCA, CKUA, CFRN, CHED, CHFA, and CBX. A newspaper, "The Vermilion Standard", is published weekly.

Financial Facilities: Canadian Bank of Commerce, Treasury Branch, Credit Union.

Churches: Anglican, Roman Catholic, United, Salvation Army, Alliance Mission, Pentacostal, Greek Orthodox.

Lodges, Service Clubs and Societies: Masons, Elks, Eastern Star, Royal Purple, I.O.D.E., Rebekahs, Rotary, Kinsmen, Board of Trade, Canadian Legion, Women's Institute, Red Cross, Fish and Game Association, Athletic Association, District Ministerial Association, Agricultural Society, Horticultural Society and Bee Keepers' Association.

Education: A new six-room Junior High school was completed in 1953 at a cost of approximately \$105,000. Instruction is given for Grades 1-12, and at the high school level complete academic courses and commercial courses are available. High School pupils are also able to take courses at the Provincial School of Agriculture while regular classes are not in session.

There are 763 pupils and 28 teachers. Ten buses convey 263 pupils from rural points daily.

Complete courses are available in agriculture and home economics at the Provincial School of Agriculture. Short courses, lectures and demonstrations, field days and conventions are held at the school annually. A 500-acre farm is operated.

Industrial Development: Vermilion offers excellent sites for industries, serviced with all utilities. Sites have good trackage and highways. There is an ample supply of natural gas, water and electric power. Oil wells are located eight miles from the town and gas wells are 12 miles away. Salt deposits are located in vicinity of Vermilion.

FOR FURTHER INFORMATION ON
VERMILION WRITE:

Chairman, Industrial Committee,
Town of Vermilion

or

Director of Industrial Development,
Legislative Building, Edmonton, Alberta